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development of PC application software. In addition, it is further possible to easily construct a low-cost system employing a hard disk which realizes efficient handling of both AV digital stream data and random access data other than such AV digital stream data.

It is to be understood that, in this specification, the transmission medium for transmitting a program connotes any information recording medium such as removable HDD, ROM, FD (floppy disc), CD-ROM (compact disc-read only memory), and also any network transmission medium such as Internet, digital satellite or the like.

The explanation given above for the preferred embodiments is concerned with an exemplary case of recording data on and/or reproducing the same from a hard disk drive. However, the present invention is applicable also to recording and reproduction of data on or from any other recording medium as well.

Although the present invention has been described hereinabove with reference to the preferred embodiments thereof, it is to be understood that the invention is not limited to such embodiments alone, and a variety of other changes and modifications will be apparent to those skilled in the art without departing from the spirit of the invention.

The scope of the invention, therefore, is to be determined solely by the appended claims.

What is claimed is:

1. A data recording apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds; and

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited to a replacement sector and whereby in said second method the recording of the second data is not limited to a replacement sector.

2. The data recording apparatus according to claim 1, wherein the first data are those closely correlated, and the second data are those not correlated.

3. The data recording apparatus according to claim 2, wherein the first data are temporally continuous.

4. The data recording apparatus according to claim 1, wherein the first data are composed of audio and/or video data streams, and the second data are random access data other than audio and/or video data streams.

5. The data recording apparatus according to claim 1, wherein said recording means records, in said recording medium, the first data and the second data as a file.

6. The data recording apparatus according to claim 5, further comprising a storage means for storing specific extender information which represents a file kind assigned to said file, wherein said identifying means identifies the first data and the second data on the basis of such extender information.

7. A data recording apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds;

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium, wherein said recording means records in said recording medium the first data and the second data as a file; and

a storage means for storing specific extender information which represents a file kind assigned to said file,

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wherein said identifying means identifies the first data and the second data on the basis of such extender information, and

wherein, when recording the first data in said recording medium, said recording means limits, by said first method, seek to a replacement sector formed at the time of formatting said recording medium.

8. A data recording method comprising the steps of:

identifying first data and second data of mutually different kinds; and

recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited to a replacement sector and whereby in said second method the recording of the second data is not limited to a replacement sector.

9. A data reproducing apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds; and

a reproducing means for reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced while limiting a number of retries and whereby in said second method the second data is reproduced while not limiting the number of retries.

10. The data reproducing apparatus according to claim 9, wherein the first data are those closely correlated, and the second data are those not correlated.

11. The data reproducing apparatus according to claim 10, wherein the first data are temporally continuous.

12. The data reproducing apparatus according to claim 9, wherein the first data are composed of audio and/or video data streams, and the second data are random access data other than audio and/or video data streams.

13. The data reproducing apparatus according to claim 9, wherein said reproducing means reproduces, as a file, the first data and the second data recorded in said recording medium.

14. The data reproducing apparatus according to claim 13, further comprising a storage means for storing specific extender information which represents a file kind assigned to said file, wherein said identifying means identifies the first data and the second data on the basis of such extender information.

15. The data reproducing apparatus according to claim 14, wherein, when reproducing the first data from said recording medium, said reproducing means limits, by said first method, an operation to inhibit a process of continuously reading out the first data.

16. The data reproducing apparatus according to claim 9, further comprising:

an error information storage means for storing error information generated when said reproducing means reproduces the first data from said recording medium; and

an interpolation means for interpolating the first data reproduced by said reproducing means, on the basis of the error information stored in said error information storage means.

17. A data reproducing method comprising the steps of: identifying first data and second data of mutually different kinds; and

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reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced while limiting a number of retries and whereby in said second method the second data is reproduced while not limiting the number of retries.

18. A data recording/reproducing apparatus comprising: an identifying means for identifying first data and second data of mutually different kinds;

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited to a replacement sector and whereby in said second method the recording of the second data is not limited to a replacement sector; and

a reproducing means for reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced while limiting a number of retries and whereby in said second method the second data is reproduced while not limiting the number of retries.

19. The data recording/reproducing apparatus according to claim 18, wherein the first data are those closely correlated, and the second data are those not correlated.

20. The data recording/reproducing apparatus according to claim 19, wherein the first data are temporally continuous.

21. The data recording/reproducing apparatus according to claim 18, wherein the first data are composed of audio and/or video data streams, and the second data are random access data other than audio and/or video data streams.

22. The data recording/reproducing apparatus according to claim 18, wherein said recording means records, in said recording medium, the first data and the second data as a file; and said reproducing means reproduces, as a file, the first data and the second data recorded in said recording medium.

23. The recording/reproducing apparatus according to claim 22, further comprising a storage means for storing specific extender information which represents a file kind assigned to said file, wherein said identifying means identifies the first data and the second data on the basis of such extender information.

24. A recording/reproducing apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds;

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium, wherein said recording means records in said recording medium the first data and the second data as a file;

a reproducing means for reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium, wherein said reproducing means reproduces as a file the first data and the second data recorded in said recording medium; and

a storage means for storing specific extender information which represents a file kind assigned to said file,

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wherein said identifying means identifies the first data and the second data on the basis of such extender information, and

wherein, when recording the first data in said recording medium, said recording means limits, by said first method, seek to a replacement sector formed at the time of formatting said recording medium; and when reproducing the first data from said recording medium, said reproducing means limits, by said first method, an operation to inhibit a process of continuously reading out the first data.

25. The data recording/reproducing apparatus according to claim 18, further comprising:

an error information storage means for storing error information generated when said reproducing means reproduces the first data from said recording medium; and

an interpolation means for interpolating the first data reproduced by said reproducing means, on the basis of the error information stored in said error information storage means.

26. A data recording/reproducing method comprising the steps of:

identifying first data and second data of mutually different kinds;

recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited to a replacement sector and whereby in said second method the recording of the second data is not limited to a replacement sector; and

reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced while limiting a number of retries and whereby in said second method the second data is reproduced while not limiting the number of retries.

27. A transmission medium for transmitting a computer program used in a data recording/reproducing apparatus which records or reproduces first data and second data of mutually different kinds in or from a recording medium, said computer program having functions of:

identifying the first data and the second data;

recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited to a replacement sector and whereby in said second method the recording of the second data is not limited to a replacement sector; and

reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced while limiting a number of retries and whereby in said second method the second data is reproduced while not limiting the number of retries.

28. A data recording apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds; and

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited from being written to a replacement sector and is enabled to be written continuously to said recording medium and whereby in said second method the recording of the second data is not limited and is enabled to be written to a replacement sector and also continuously to said recording medium.

29. The data recording apparatus according to claim 28, wherein the first data are those closely correlated, and the second data are those not correlated.

30. The data recording apparatus according to claim 29, wherein the first data are temporally continuous.

31. The data recording apparatus according to claim 28, wherein the first data are composed of audio and/or video data streams, and the second data are random access data other than audio and/or video data streams.

32. The data recording apparatus according to claim 28, wherein said recording means records, in said recording medium, the first data and the second data as a file.

33. The data recording apparatus according to claim 32, further comprising a storage means for storing specific extender information which represents a file kind assigned to said file, wherein said identifying means identifies the first data and the second data on the basis of such extender information.

34. A data recording apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds;

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium, wherein said recording means records in said recording medium the first data and the second data as a file; and

a storage means for storing specific extender information which represents a file kind assigned to said file,

wherein said identifying means identifies the first data and the second data on the basis of such extender information, and

wherein, when recording the first data in said recording medium, said recording means limits, by said first method, seek so that recording cannot be made to a replacement sector formed at the

time of formatting said recording medium.

35. A data recording method comprising the steps of:

identifying first data and second data of mutually different kinds; and

recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium.

whereby in said first method the recording of the first data is limited from being written to a replacement sector and is enabled to be written continuously to said recording medium and whereby in said second method the recording of the second data is not limited and is enabled to be written to a replacement sector and also continuously to said recording medium.

36. A data reproducing apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds; and

a reproducing means for reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced so as to insure continuous reproduction of the first data and whereby in said second method the second data is reproduced so as to insure the reliability of the second data.

37. The data reproducing apparatus according to claim 36, wherein the first data are those closely correlated, and the second data are those not correlated.

38. The data reproducing apparatus according to claim 37, wherein the first data are temporally continuous.

39. The data reproducing apparatus according to claim 36, wherein the first data are composed of audio and/or video data streams, and the second data are random access data other than audio and/or video data streams.

40. The data reproducing apparatus according to claim 36, wherein said reproducing means reproduces, as a file, the first data and the second data recorded in said recording medium.

41. The data reproducing apparatus according to claim 40, further comprising a storage means for storing specific extender information which represents a file kind assigned to said file, wherein said identifying means identifies the first data and the second data on the basis of such extender information.

42. The data reproducing apparatus according to claim 41, wherein, when reproducing the first data from said recording medium, said reproducing means limits, by said first method, an operation to inhibit a reproduction process other than a process of continuously reading out the

first data.

43. The data reproducing apparatus according to claim 36, further comprising:

an error information storage means for storing error information generated when said reproducing means reproduces the first data from said recording medium; and

an interpolation means for interpolating the first data reproduced by said reproducing means, on the basis of the error information stored in said error information storage means.

44. A data reproducing method comprising the steps of:

identifying first data and second data of mutually different kinds; and

reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced so as to insure continuous reproduction of the first data and whereby in said second method the second data is reproduced so as to insure the reliability of the second data.

45. A data recording/reproducing apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds;

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited from being written to a replacement sector and is enabled to be written continuously to said recording medium and whereby in said second method the recording of the second data is not limited and is enabled to be written to a replacement sector and also continuously to said recording medium; and

a reproducing means for reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced so as to insure continuous reproduction of the first data and whereby in said second method the second data is reproduced so as to insure the reliability of the second data.

46. The data recording/reproducing apparatus according to claim 45, wherein the first data are those closely correlated, and the second data are those not correlated.

47. The data recording/reproducing apparatus according to claim 46, wherein the first data are temporally continuous.

48. The data recording/reproducing apparatus according to claim 45, wherein the first data are composed of audio and/or video data streams, and the second data are random access data other than audio and/or video data streams.

49. The data recording/reproducing apparatus according to claim 45, wherein said recording means records, in said recording medium, the first data and the second data as a file; and said reproducing means reproduces, as a file, the first data and the second data recorded in said recording medium.

50. The recording/reproducing apparatus according to claim 49, further comprising a storage means for storing specific extender information which represents a file kind assigned to said file, wherein said identifying means identifies the first data and the second data on the basis of such extender information.

51. The data recording/reproducing apparatus according to claim 45, further comprising:

an error information storage means for storing error information generated when said reproducing means reproduces the first data from said recording medium; and

an interpolation means for interpolating the first data reproduced by said reproducing means, on the basis of the error information stored in said error information storage means.

52. A recording/reproducing apparatus comprising:

an identifying means for identifying first data and second data of mutually different kinds;

a recording means for recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium, wherein said recording means records in said recording medium the first data and the second data as a file;

a reproducing means for reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium, wherein said reproducing means reproduces as a file the first data and the second data recorded in said recording medium; and

a storage means for storing specific extender information which represents a file kind assigned to said file,

wherein said identifying means identifies the first data and the second data on the basis of such extender information, and

wherein, when recording the first data in said recording medium, said recording means limits, by said first method, seek so that recording cannot be made to a replacement sector formed at the time of formatting said recording medium; and when reproducing the first data from said recording medium, said reproducing means limits, by said first method, the reproduction process to an operation to inhibit a process of continuously reading out the first data so as to insure the

reliability of the first data.

53. A data recording/reproducing method comprising the steps of:

identifying first data and second data of mutually different kinds;

recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited from being written to a replacement sector and is enabled to be written continuously to said recording medium and whereby in said second method the recording of the second data is not limited and is enabled to be written to a replacement sector and also continuously to said recording medium; and

reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced so as to insure continuous reproduction of the first data and whereby in said second method the second data is reproduced so as to insure the reliability of the second data.

54. A transmission medium for transmitting a computer program used in a data recording/reproducing apparatus which records or reproduces first data and second data of mutually different kinds in or from a recording medium, said computer program having functions of:

identifying the first data and the second data;

recording the first data by a first method in said recording medium, while recording the second data by a second method in said recording medium,

whereby in said first method the recording of the first data is limited from being written to a replacement sector and is enabled to be written continuously to said recording medium and whereby in said second method the recording of the second data is not limited and is enabled to be written to a replacement sector and also continuously to said recording medium; and

reproducing the first data by a first method from said recording medium, while reproducing the second data by a second method from said recording medium,

whereby in said first method the first data is reproduced so as to insure continuous reproduction of the first data and whereby in said second method the second data is reproduced so as to insure the reliability of the second data.